

ABSTRAK

Rizhal Dwi Fanani. 2026. *Implementasi Pendekatan HACCP-VSM-RCA untuk Meningkatkan Kebersihan dan Efisiensi Operasional Pasar Tradisional*. Skripsi. Program Studi Teknik Industri, Fakultas Teknik, Universitas PGRI Madiun. Pembimbing: (I) Ir. Yudha Adi Kusuma, S.T., M.T., (II) Doni Susanto, S.Pd., M.Pd.

Kebersihan dan efisiensi operasional merupakan aspek penting dalam pengelolaan pasar tradisional, terutama karena aktivitas perdagangan pangan menghasilkan risiko kontaminasi dan timbunan sampah yang perlu ditangani secara tepat. Penelitian ini bertujuan untuk menganalisis kondisi kebersihan pasar melalui pendekatan Hazard Analysis and Critical Control Point (HACCP) pada aktivitas pedagang dan Value Stream Mapping (VSM) pada proses pengelolaan sampah, serta merumuskan strategi perbaikan berdasarkan Root Cause Analysis (RCA). Penelitian dilakukan pada pasar tradisional di Kabupaten Madiun dengan menggunakan data yang diperoleh melalui observasi, wawancara, dokumentasi, dan studi literatur. Analisis HACCP digunakan untuk mengidentifikasi bahaya serta menentukan prioritas pengendalian berdasarkan tingkat keparahan dan kemungkinan terjadinya bahaya. VSM digunakan untuk memetakan aliran proses pengelolaan sampah dan mengidentifikasi pemborosan waktu, kemudian RCA diterapkan menggunakan Fishbone Diagram dan 5 Why Analysis untuk menelusuri akar penyebab permasalahan.

Hasil analisis HACCP menunjukkan bahwa risiko pada aktivitas pedagang secara umum berada dalam kategori rendah, meskipun masih terdapat beberapa titik bahaya berkategori sedang yang memerlukan perhatian, seperti penyimpanan bahan baku, penggunaan minyak goreng berulang, kondisi air pencucian, penumpukan limbah organik, dan kebiasaan tidak mencuci tangan setelah memegang uang. Hasil VSM menunjukkan bahwa waktu tunggu pengangkutan sampah dari tempat penampungan sementara menuju tempat pembuangan akhir mencapai tujuh hari atau 168 jam. Melalui RCA, kondisi tersebut diketahui berkaitan dengan frekuensi pengangkutan yang belum disesuaikan dengan volume timbunan sampah serta

belum optimalnya pemanfaatan data timbulan sampah. Rekomendasi perbaikan meliputi peningkatan frekuensi pengangkutan sampah menjadi dua kali seminggu, penetapan rute pengumpulan yang terstandar, pengomposan sampah organik di lokasi, dan penguatan praktik higiene pedagang. Penelitian ini menghasilkan rekomendasi perbaikan yang mengintegrasikan pengendalian bahaya keamanan pangan dan efisiensi operasional sebagai dasar pengelolaan pasar tradisional yang lebih bersih dan terarah.

Kata Kunci: HACCP, Value Stream Mapping, Root Cause Analysis, kebersihan pasar, efisiensi operasional.

ABSTRACT

Rizhal Dwi Fanani. 2026. *Implementation of the HACCP–VSM–RCA Approach to Improve Cleanliness and Operational Efficiency in Traditional Markets*. Undergraduate Thesis. Industrial Engineering Study Program, Faculty of Engineering, Universitas PGRI Madiun. Advisors: (I) Ir. Yudha Adi Kusuma, S.T., M.T., (II) Doni Susanto, S.Pd., M.Pd.

Cleanliness and operational efficiency are important aspects of traditional market management, particularly because food trading activities may create contamination risks and generate waste that requires proper handling. This study aims to analyze market cleanliness using the Hazard Analysis and Critical Control Point (HACCP) approach to assess trading activities and Value Stream Mapping (VSM) to evaluate the waste management process, as well as to formulate improvement strategies based on Root Cause Analysis (RCA). The research was conducted in traditional markets in Madiun Regency, using data collected through observation, interviews, documentation, and literature review. HACCP was applied to identify potential hazards and determine control priorities based on their severity and likelihood of occurrence. VSM was used to map the waste management process and identify time-related inefficiencies, while RCA, supported by a Fishbone Diagram and the 5 Whys technique, was employed to identify the root causes of the problems.

The HACCP analysis indicated that the risks associated with trading activities were generally classified as low, although several medium-risk points required further attention, including raw material storage, repeated use of cooking oil, washing water conditions, organic waste accumulation, and inadequate handwashing practices after handling money. The VSM analysis revealed that waste transportation from temporary storage facilities to the final disposal site involved a waiting time of approximately seven days, or 168 hours. The RCA findings indicated that this delay was associated with a waste collection frequency that had not been adjusted to the volume of waste generated and the suboptimal use of waste generation data for operational planning. The proposed improvements include

increasing waste transportation frequency to twice a week, establishing standardized collection routes, implementing on-site composting for organic waste, and strengthening food hygiene practices among vendors. This study provides integrated recommendations for controlling food safety hazards and improving operational efficiency as a basis for cleaner and more systematic traditional market management.

Keywords: HACCP, Value Stream Mapping, Root Cause Analysis, market cleanliness, operational efficiency.